

(for US)

Claims

1. An alkaline protease having an amino acid sequence wherein one or more amino acid residues selected from those located at (a) position 15, (b) position 16, (c) position 166, (d) position 167, (e) position 187, (f) position 346, and (g) position 405 of the amino acid sequence of SEQ ID NO: 1, or at positions corresponding to these positions are the following amino acid residues, respectively:

Position (a): histidine,
Position (b): threonine or glutamine,
Position (c): glycine,
Position (d): valine,
Position (e): serine,
Position (f): arginine, and
Position (g): aspartic acid.

2. An alkaline protease having an amino acid sequence of SEQ ID NO: 1 or an amino acid sequence having 80% or higher homology with the amino acid sequence of SEQ NO: 1, wherein one or more amino acid residues selected from those located at (a) position 15, (b) position 16, (c) position 166, (d) position 167, (e) position 187, (f) position 346, and (g) position 405 of SEQ ID NO: 1, or at positions corresponding to these positions are the following amino acid residues, respectively:

Position (a): histidine,
Position (b): threonine or glutamine,
Position (c): glycine,

Position (d): valine,
Position (e): serine,
Position (f): arginine, and
Position (g): aspartic acid.

3. A gene encoding the alkaline protease as described in claim 1.

4. A gene encoding the alkaline protease as described in claim 2.

5. A recombinant vector comprising the gene as described in claim 3.

6. A recombinant vector comprising the gene as described in claim 4.

7. A transformant comprising the vector as described in claim 5.

8. A transformant comprising the vector as described in claim 6.

9. The transformant according to claim 7, in which a host is a microorganism.

10. The transformant according to claim 8, in which a host is a microorganism.

11. A detergent composition comprising the alkaline protease as recited in claim 1.

12. A detergent composition comprising the alkaline protease as recited in claim 2.